



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

647.7714

Job Sheet 171211



Part No: 647.7714

Job Qty: 28 ea

Part Name: Strut Tube



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 1/30/18

Job Tracking No:

Due Date: 2/15/18

Created By: Michelle Gagnon-Donovan

Type: Stock

Description:

Note: DWG REV A1 IPP REV:A 15.01.07 NEW ISSUE DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	28 Ea		2/14/18	0.00	0.00	Start Up Machining-1		DAS 34 9-89
110	Mill Conv	28 pcs		2/15/18	0.00	5.04	Mill Conv 1		
120	QC	28 pcs		2/15/18	0.00	0.00	QC2 Machining-1		18/4/24
125	QC	28 pcs		2/15/18	0.00	0.00	QC8 Machining-1		18/04/24
130	Packaging	28 pcs		2/15/18	0.00	0.00	Packaging3-1		
140	QC21-SA	28 Ea		2/15/18	0.00	0.00	QC21		

Part Op 110 - 1- CUT AS PER DWG
Descriptions: 130 - ***Stock in large fab*** WA001

DAS 21 9-89

APR 25 2018

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M4130NT0.500W.083	4130 Round Tube .500 X .083W	15.1200 ft (.54 ea)	90-Start up Operation	5024962

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	M4130NT0.500W.083	15	17	0

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Strut Tube	6.500inches ± 0.005	6.505 6.495		6.503"
2	Strut Tube	0.188inches ± 0.005	0.193 0.183	Radius	0.188"
3	Strut Tube	0.500inches ± 0.005	0.505 0.495	Diameter	0.500"
4	Strut Tube	0.334inches ± 0.005	0.339 0.329	Diameter	0.333"



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Plex 1/31/18 10:11 AM Dart.Gagnon.Michelle

Container No: S064757



Part: 647.7714

Job No: 171211

Serial No/Batch: S064757

Revision:
Inspector:

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					



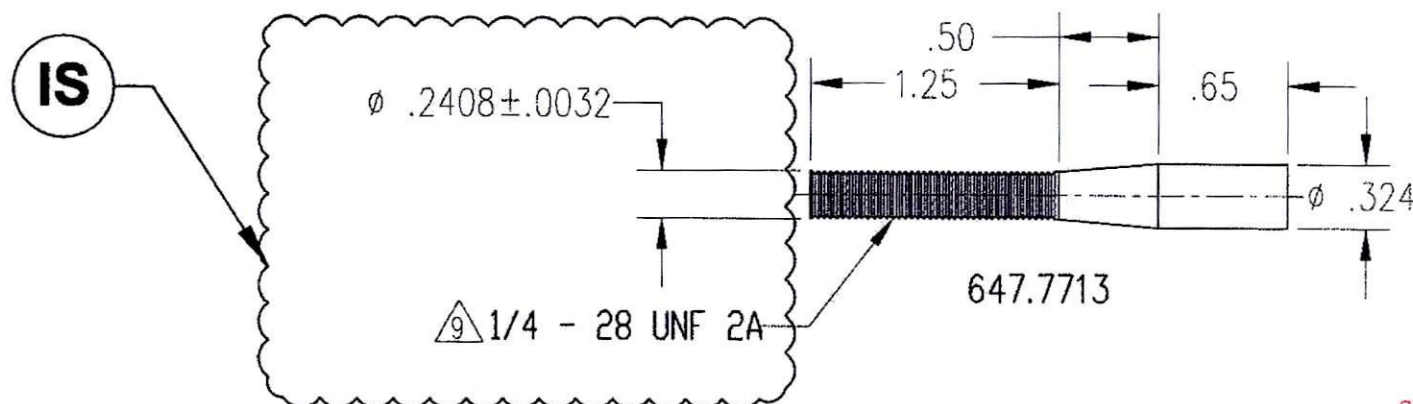
APICAL INDUSTRIES, INC.
dba DART AEROSPACE

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

ENGINEERING CHANGE NOTICE NO. 05397		SHEET 1 OF 1	
DWG NO. 647.7700	REV: A	PREPARED BY T. CROSS	DATE: 05/02/16
EFFECT ON DWG ☐ INC. ☒ UNINC.			
DWG TITLE: STRUT ASSY			
APPROVED BY: ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: CURRENT ORDER
REASON: REVISED DIMENSION			ECR: 16-028

SHEET 2, ZONE D4 IS:

ACTION LIST:
1.



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 171211 *cmg*

JAN 31 2018

DOCUMENTS EFFECTED:	☐ PATTERN	☐ MDL	☐ INSTALL INSTRU	☐ ICA	☐ BOM	CHANGE CATEGORY	DER REVIEW REQUIRED
						☐ MAJOR ☒ MINOR	☐ YES ☒ NO



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

ENGINEERING CHANGE NOTICE NO.

05110

SHEET 1 OF 1

DWG NO. 647.7700

REV: A

PREPARED
BY

A. QUAN

DATE: 08/21/15

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: STRUT ASSY

APPROVED BY:

ENGR

MFG

QC

EFF.

CURRENT ORDER

REASON: REVISED FINISH CALLOUT AS PER ECR 15-209

SHEET 1, NOTES IS:

ACTION: UPDATE MO & WO

NOTES:

- 1 MATERIAL: 4130 STEEL PER AMS-T-6736, .50" OD, .083" WALL THK.
- 2 MATERIAL: 4130 STEEL PER AMS-T-6736, .375" OD, .075" WALL THK.
- 3 MATERIAL: 4130 STEEL PER AMS-T-6736, .324" OD.
- 4 FINISH: PRIME IAW MIL-P-2337J TYPE I CLASS N; 1-2 MIL MAX
5. DEBURR AND BREAK ALL SHARP EDGES
6. IDENTIFY IAW MPP-120.
- 7 WELD IAW MIL-STD-2219. TIG WELD WITH FILLER ROD
- 8 FINISH: CAD PLATE IAW QQ-P-416F CLASS I TYPE II
- 9 MASK THREAD PRIOR TO FINISH

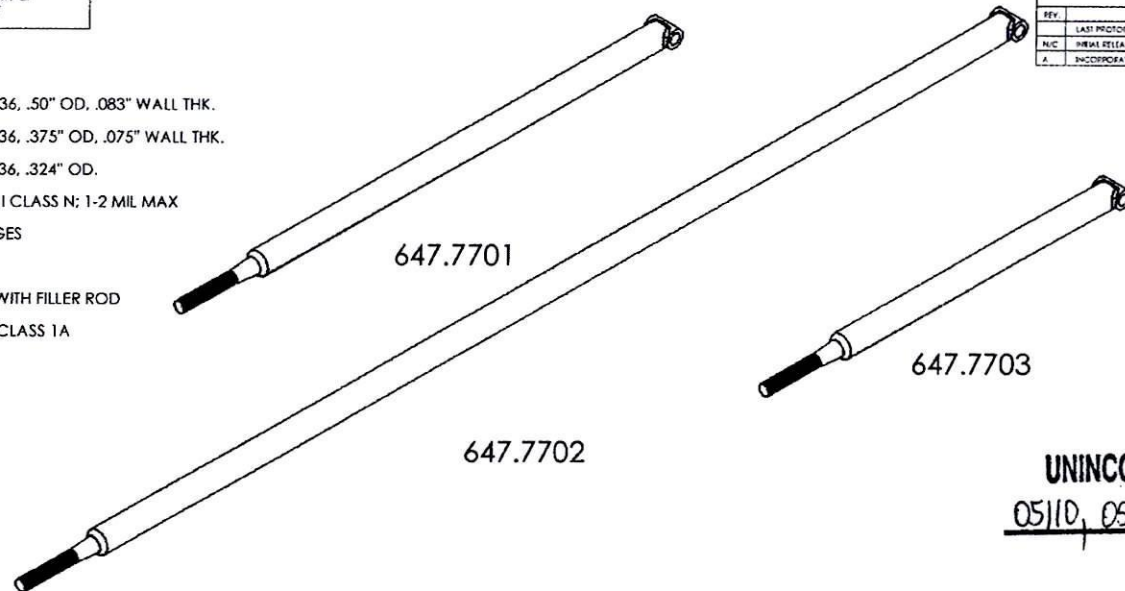
F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
DOCUMENTS EFFECTED:					
☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM					
CHANGE CATEGORY					
☐ MAJOR ☐ MINOR					
DER REVIEW REQUIRED					
☐ YES ☐ NO					

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

NOTES:

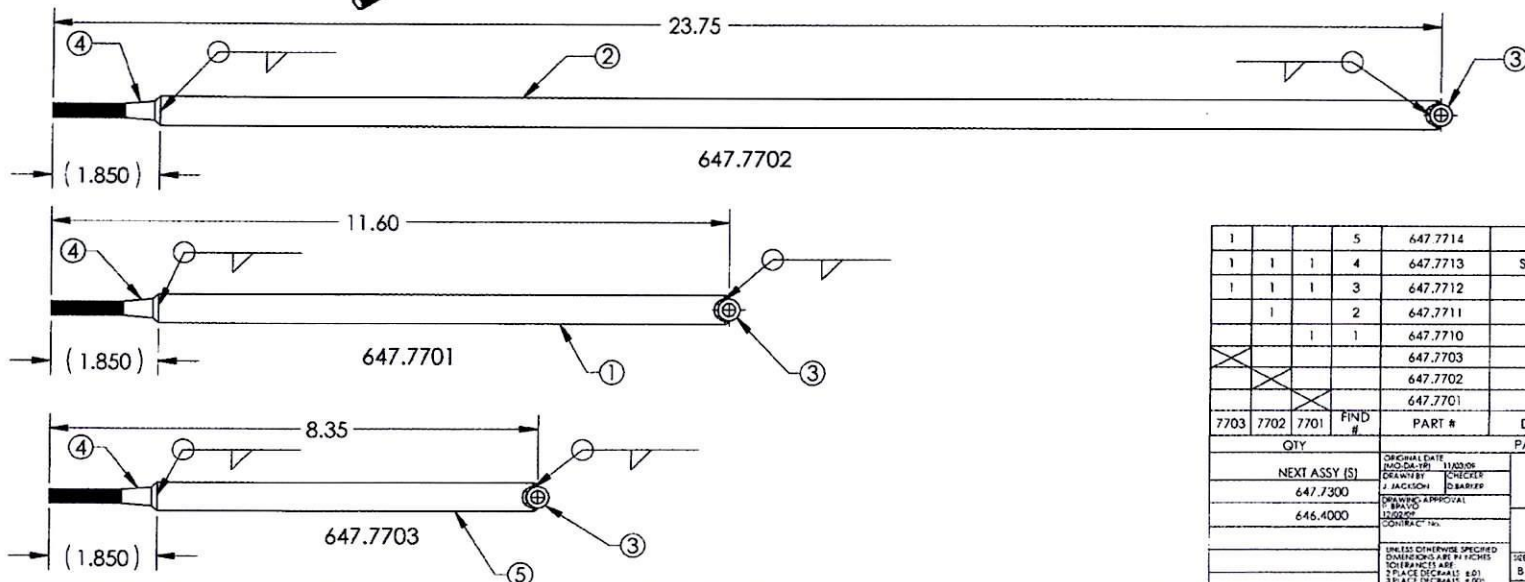
- ⚠ MATERIAL: 4130 STEEL PER AMS-T-6736, .50" OD, .083" WALL THK.
- ⚠ MATERIAL: 4130 STEEL PER AMS-T-6736, .375" OD, .075" WALL THK.
- ⚠ MATERIAL: 4130 STEEL PER AMS-T-6736, .324" OD.
- ⚠ FINISH: PRIME IAW MIL-P-2337J TYPE I CLASS N; 1-2 MIL MAX
- 5. DEBURR AND BREAK ALL SHARP EDGES
- 6. IDENTIFY IAW MPP-120.
- ⚠ WELD IAW MIL-STD-2219, TIG WELD WITH FILLER ROD
- ⚠ FINISH: CAD PLATE IAW MIL-C-5541 CLASS 1A
- ⚠ MASK THREAD PRIOR TO FINISH

REVISION			
REV.	DESCRIPTION	DATE	APPROVED
LAST PROTOTYPE REVISION P2			A/C
A/C	INITIAL RELEASE	12/02/08	P. BRAVO
A	INCORPORATED ECH/DAI	11/13/14	P. BRAVO



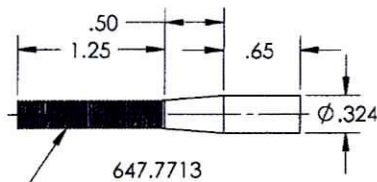
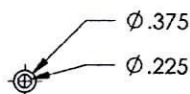
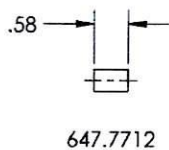
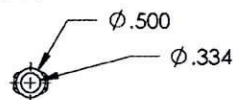
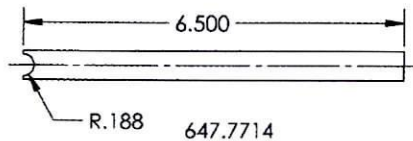
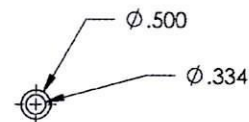
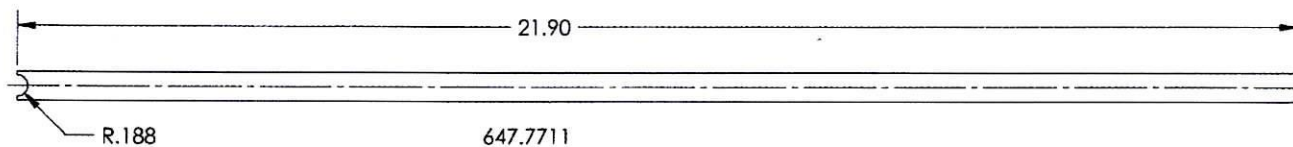
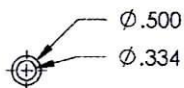
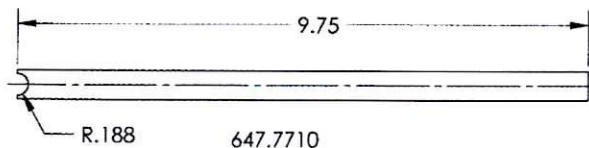
UNINCORPORATED ECN(s)

05110, 05397,



1			5	647.7714	STRUT TUBE	⚠	
1	1	1	4	647.7713	STRUT THREAD	⚠	⚠
1	1	1	3	647.7712	STRUT TUBE	⚠	
	1		2	647.7711	STRUT TUBE	⚠	
		1	1	647.7710	STRUT TUBE	⚠	
				647.7703	STRUT ASSY		⚠⚠
				647.7702	STRUT ASSY		⚠⚠
				647.7701	STRUT ASSY		⚠⚠
7703	7702	7701	FIND #	PART #	DESCRIPTION	MATL	SPEC.
QTY				PARTS LIST			
NEXT ASSY (S)				APICAL INDUSTRIES			
647.7300				2608 TEMPLE HEIGHTS DR.			
646.4000				OCEANSIDE, CA. 92056-3512 (760)724-5300			
				STRUT ASSY			
				REV. 647.7700			
				SHEET 1 OF 2			

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



1/4 - 28 THREAD

ORIGINAL DATE REV. DATE 11/25/09 DRAWN BY J. JACKSON CHECKED BY J. JACKSON DRAWING APPROVAL P. BRAND CONTRACT NO.	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300		
	STRUT ASSY		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°	SHEET (PAGE CODE) B 07A026	DWG. NO. 647.7700	REV. A
	SCALE: NONE SHEET 2 OF 2		